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ABSTRACT

One hundred black children in two all-black elementary schools in rural Florida were taught reading by a method described as Differentiated, Oral, Visual, Aural, Computerized, Kinesthetic (DOVACK). The children dictated their own stories in their own Afro-American dialect on dictaphone belts. A computer furnished printouts of the stories for the children to read. They could also hear their own words played back on recordings made by the teacher. Each new word a student used was recorded by the computer: thus a running record of a child's vocabulary development was created. Reading progress was achieved by introducing students to standard English usage through composite stories. These were standard English versions of the pupil's own dictation and gave him a chance to recognize his own words and thoughts in a different context. Periodic tests were given to evaluate the students' progress and needs. The computer printed out a weekly pupil progress report which the teacher used to prescribe corrective steps. Present cost per student for the DORVACK approach is $770 above the regular district expenditure of $658. Parent support for the program is very good; and parents of children not in the program are asking for an expansion of the program to include all the children. (MF)

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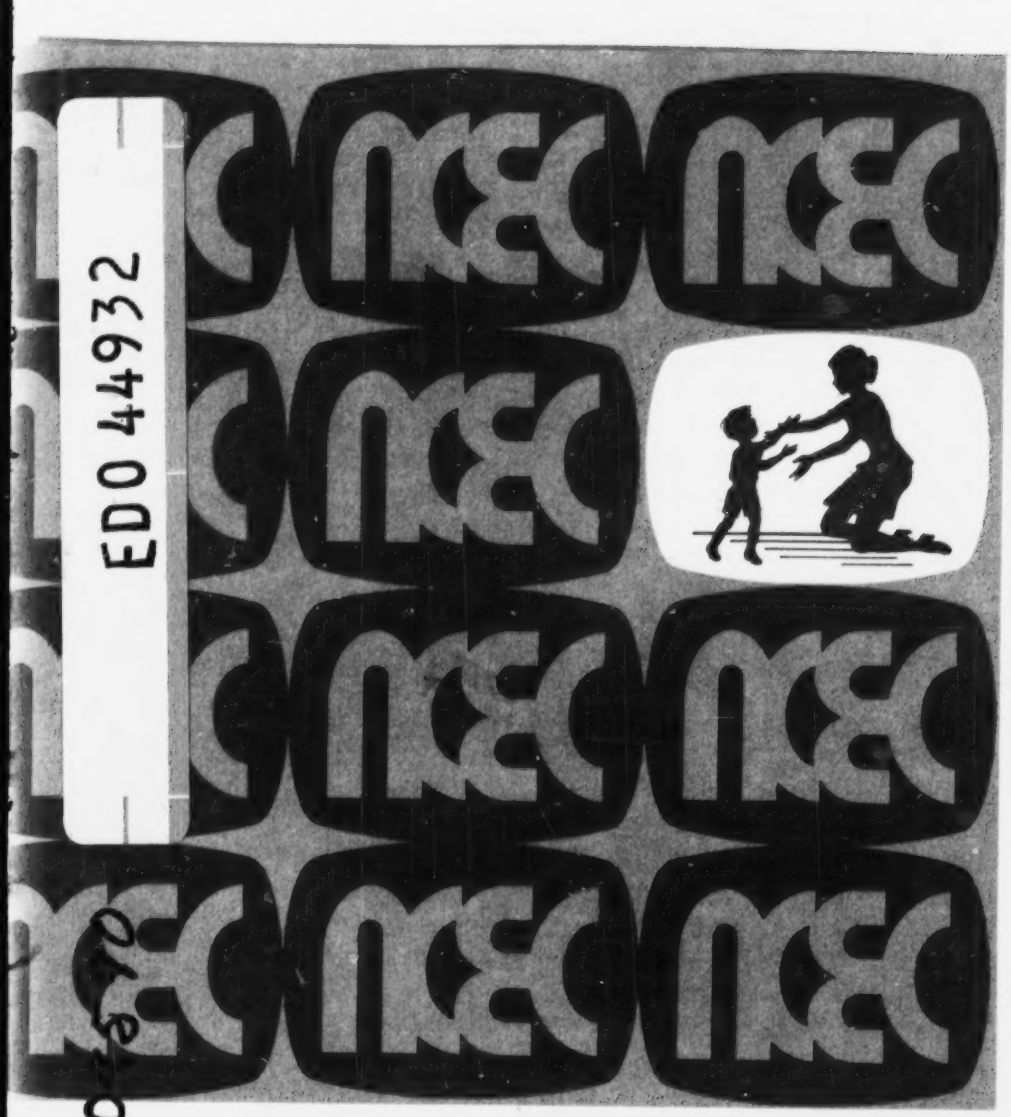

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Model Programs

Childhood Education

DOVACK

Monticello, Florida

A computer-assisted language experience which allows children to create their own reading lessons

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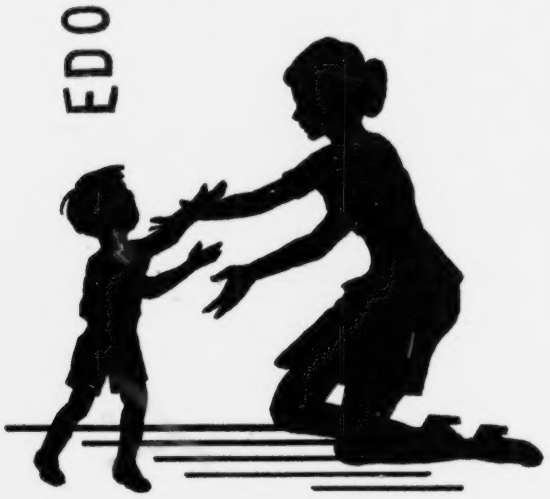

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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FOREWORD

This booklet is one of 34 in a series of promising programs on childhood education prepared for the White House Conference on Children, December 1970. The series was written under contract by the American Institutes for Research for the Office of Economic Opportunity, and the Office of Child Development and the Office of Education, U.S. Department of Health, Education, and Welfare.

Within the broad area of childhood education the series includes descriptions of programs on reading and language development, the disadvantaged, preschool education, and special education. In describing a program, each booklet provides details about the purpose; the children reached; specific materials, facilities, and staff involved; and other special features such as community services, parental involvement, and finances. Sources of further information on the programs are also provided.

For many black children in Monticello, Florida, DOVACK is a familiar word meaning simply that learning to read can be exciting and fun.

The DOVACK method for teaching reading has operated since 1969 in Monticello, a small rural community in Jefferson County. Its goals are to help pupils to become independent and self-pacing in their study habits, to develop good attitudes toward reading, and to develop reading skills. Because the children speak an Afro-American dialect, traditional approaches to the teaching of reading have limited success. DOVACK tries to overcome this difficulty by enabling students to start with the concepts and vocabulary they already know.

The children dictate their own stories on dictaphone belts. A computer furnishes a printout of the story for the student, and he can also hear his own words played back on a recording made by the teacher. Each new word the student uses is recorded by the computer; thus a running record of a child's vocabulary development is created. All of the child's sensory experiences can be used as a background for the stories he dictates, and DOVACK encourages his use of multisensory techniques in his independent study.

The computer frees the teacher from the tasks of taking student dictations and recordkeeping. It provides her with evaluations and reports to be used in detecting and meeting the needs of each pupil and enables her to devote her time to giving individualized help. The essential attributes of the program are indicated in the words which form the acronym DOVACK--Differentiated, Oral, Visual, Aural, Computerized, Kinesthetic. This student-centered approach allows children to create their own reading lessons and encourages them to transfer their newly learned skills to all types of reading materials.

A TARGET GROUP OF DISADVANTAGED RURAL YOUNGSTERS

The need for a more effective way to teach reading to many types of students was particularly obvious to Mrs. Florine Way, a teacher in the Jefferson County Public Schools in Monticello for 29 years. She found that the black youngsters had special difficulties in learning to read with traditional materials, which were not designed for them and did not fit their needs.

LOCALE

Jefferson County, Florida, is a poverty-stricken farming area of about 10,000 people, 2,000 of whom live in the town of Monticello. The ethnic composition is 68 percent black and 32 percent

white. Seventy-four percent of the black families in the area and 33 percent of the white population exist on less than $3,000 per year.

Schools in Jefferson County have traditionally been segregated. Of the four public schools, two were all black and two were all white. Partial integration was begun in 1969-70 at Jefferson County High School, which was all white, but in general black students attend Mamie Scott Elementary School (grades K through four) and Howard Academy (grades five through 12), both of which have no white students. It was in these two all-black schools that Mrs. Way decided to try her new approach to teaching reading.

A NEED TO REPLACE "DICK, JANE, AND SPOT"

The DOVACK method was devised by Mrs. Way because she found that many reading programs used the lock-step approach and were often extremely boring for certain students. She became so frustrated with the "Dick-Jane-Spot" reading materials that she was challenged by her principal to find a new way of reaching certain boy students. One particularly poor reader was chosen for an experiment. She asked this student to tell a story or relate a personal experience while she typed what he was saying. Later he

was given the story to read and study. By using this method, he was able to bring his reading scores up to grade level.

While teaching part time at Florida State University, Mrs. Way continued to experiment with this student-dictation approach. She worked first with some of her own pupils in Monticello and then, under a research grant from the University, with illiterate inmates in a nearby prison. On the basis of the success she had with both of these projects, her proposal to establish an expanded version of her basic approach in Jefferson County was funded by the U.S. Office of Education.

MONTICELLO TRIES THE NEW APPROACH

In 1968, under a Title III ESEA grant, implementation of the DOVACK method was begun in Monticello. A new building was constructed on the school grounds at the all-black Howard Academy. Various equipment, including an IBM Keypunch 29 and Teletype ASR 35, 34 dictaphones, and various videotape recording equipment, was moved into the new building. The program operated for only 3 months in 1968-69.

During the 1969-70 school year, a full year's program using the DOVACK method was instituted not only at Howard Academy but also at the Mamie Scott School, where facilities were expanded and modified to accommodate the program. Students were selected by a simple process. They were matched in pairs according to performance on standardized tests, and the pairs were ranked by their scores. From each pair, one student was randomly assigned to the DOVACK program and the other to the control group, one hundred students to each group. In DOVACK there were 57 fifth and sixth graders at Howard Academy and 43 students from grades K, one, two, and four at Mamie Scott School. The reading level of the students at the beginning of the program was estimated to be two grade levels below the national norm.

A DESIGN TO MEET SPECIFIC NEEDS

Analysis of the reading problems of the DOVACK students is the guiding factor in the selection of personnel, curriculum, and materials. This is in accordance with the three broad criteria established for the success of the method: (1) *adaptability* to the needs of the population for which it was designed, (2) *effectiveness* in meeting educational objectives stated for those populations, and (3) *economic feasibility*.

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Mrs. Way, as project director, selected staff members whose backgrounds were the same as or similar to the backgrounds of the students, thus enabling them to relate to the philosophy of DOVACK. Because the student population for which the Monticello program was designed is rural, disadvantaged, and all black, the two teachers and four teacher aides chosen were black. The teachers were selected partly on the basis of their acquired excellent speech patterns, which also retained a slight Afro dialect. Because the philosophy of the program is student-centered, flexibility in thinking and good teaching patterns were also important qualifications. The academic background of the teachers includes a B.A. and some graduate work and experience as teachers. These teachers and aides have remained with the program since its inception.

Inservice training of the teaching staff focuses on the philosophy of the DOVACK approach and the acceptance of the pupil as the one controlling the learning environment. It is emphasized that DOVACK is not teacher-dominated: teachers do not tell the child what to do every moment of his schoolday; instead, they accept and encourage independence, self-reliance, and self-sufficiency.

In addition to the teachers and teacher aides working with children in the classroom, "behind the scenes" personnel--members of the computer staff, programers, and statisticians at Florida State University--donate a great deal of time to the DOVACK program.

OBJECTIVES FOR DEVELOPING STUDENT POTENTIAL

The program has the following specific objectives to meet the particular needs of the student:

- To develop skill in manipulating his own equipment and materials
- To become independent and self-pacing in his study habits
- To develop favorable attitudes toward reading
- To develop proficiency in word recognition, word attack skills, and general reading achievement

Although classroom activities are geared toward helping the students achieve these goals, the actual daily content of the lesson is determined by the youngster himself. Self-motivation allows him freedom to learn through his own interests and at his own pace.

STUDENTS WORK INDEPENDENTLY

The visitor to a DOVACK class observes many types of behavior not usually found in a conventional classroom. As the period begins, students do not wait for the teacher to tell them what to do. Instead, each student takes from his desk a paper labeled "My DOVACK Agenda," which lists the activities that he is to do in class that day--not activities dictated to him by the teacher but activities he has planned the previous day. He may begin with an activity such as "Dictate a story," "Read my story to Joyce," or "Copy my story to share with George." As he completes each activity, he records the time at which he finishes. The DOVACK agenda helps students to achieve one of the major program objectives--to become independent and self-pacing in study habits.

STUDENTS MASTER TECHNOLOGY

After students have checked their DOVACK agenda sheets, they begin to work independently on various activities, using surprisingly complex equipment such as dictabelts and dictamailers. While this equipment was being installed, the pupils were encouraged to visit the DOVACK classroom. They were allowed to touch the equipment and ask questions about it, to explore its use with the guidance of an aide. When each pupil was ready to learn the skill required in using the dictaphone, the teacher or an aide

taught him. Soon after classes began, all students were using the dictaphones independently. Their ability to use this and other DOVACK equipment is evidence that they have achieved another program objective--to develop skill in manipulating their own equipment and materials. The students also develop a sense of responsibility and cooperation. Frequently they take field trips that give them new experiences which may form the basis of stories they will dictate. On these expeditions children work together in handling videotape recording equipment.

LANGUAGE EXPERIENCES FOR DICTATION

Classroom activities provide sources of language experiences for the students, both individually and in groups. One such activity is the viewing, as a group, of filmstrips, such as a series on *Great Negroes Past and Present*, while listening to a recorded narration. Other resources dealing with black history and heritage are used.

After they view the filmstrips, the students dictate their own reading lessons from what they understood about the filmstrips and narration, using specially designed DOVACK desks.

This is one of the few occasions when a group of pupils may be engaged in the same activity at the same time. More frequently, students dictate stories according to their own agenda. During a typical class period, one student may be dictating a story; another may be reading a printout of his story while hearing it on a recording; several others may be viewing a film together; and others may be sharing their printed stories, using copies they have made on a dry copier.

Activities such as these are designed to help children achieve the other main objectives of the program--to develop favorable attitudes toward reading and to develop proficiency in word recognition, word attack skills, and general reading achievement.

CREATING THEIR OWN READING LESSONS

The beginning reader's dictation of his own stories is the basis for reading lessons using the concepts and words that the pupils already know from their own experience but have not learned to recognize visually. Thus, DOVACK capitalizes on the experience, folk humor, and prior comprehension of each pupil, giving him self-confidence by assuring him of positive support for the way in which he communicates with his family and his peers. When

a pupil dictates his own lessons onto a voice recorder, he uses the language pattern in which he is accustomed to speak, listen, and understand. One DOVACK student dictated the following:

> Yesterday when I went home those boys was throwing all across the bus. They threw paper all side people head. I didn't want to say anything. Just as long as they don't hit me.

The pupil is introduced to standard English usage through composite stories. These are standard English versions of the pupil's own dictations which give him a chance to recognize his own words and thoughts in a different context. The child is told that his stories in his dialect are fine, and that here is simply another approach to the same material. The pupils also read each other's stories in the composite version. The composite stories become transition materials to help prepare the pupils for published materials. The pupils are encouraged to read published materials of their own choosing as soon as possible. The program staff also encourages extension of content from students' stories into other school subjects such as social studies.

In addition to their own stories, students use material devised by the program staff to help them achieve the reading objectives. These include a locally prepared DOVACK kit which contains a DOVACK book of stories, a checklist of skills, and a word attacker, a small book of printed words and pictures with a voice recording to match. The word attacker is designed to teach the names and sounds of letters of the alphabet and the common consonant blends.

12 **TECHNOLOGY AIDS EVALUATION**

The students' progress and needs are evaluated by periodic tests which are scheduled as a regular part of the students' activities. Usually, every 6th day a student takes a vocabulary test covering the new words that he has used in his dictations over the past 5 days. Every 36 days a cumulative test is given which tests the youngster on all his previous vocabulary.

Because the DOVACK system uses the computer to perform many evaluation and recordkeeping tasks, teachers have more time to work with pupils. The computer helps identify learning problems and patterns by printing out a pupil progress report for each 6-day cycle. This report includes (1) number of class periods

attended, (2) average number of dictations per class period, (3) average number of words dictated per class period, (4) average number of new words dictated per class period, (5) type-token ratio, the number of distinct words divided by the total number of words dictated, (6) number of words on random sample vocabulary recognition (RSVR) test, (7) number of words correct on RSVR test, (8) estimated percent of new words learned, (9) estimated number of new words learned, and (10) estimated rate of learning new words per class period. Student scores are placed in one of four coordinates, and the teacher uses this coordinate graph in identifying the youngster's learning problems and prescribing corrective steps. For instance, the prescription might be: "Needs to study his dictations more. Needs to study more composite stories. Needs to study word attacker. Needs help in analyzing words missed on tests, with emphasis on sound-sight relationship."

Data for these graphs are stored in the memory banks of the Florida State University computer, which maintains a word bank for each pupil by scanning each dictation and adding any new words to the pupil's record. The new words are alphabetized and sent back to the pupil with a line-numbered text. The random sample vocabulary recognition test is derived by the computer from

the list of words that each pupil dictated during the 6-day cycle. The computer uses a special formula to determine the number of randomly selected words that each pupil must be tested on in order to give a reasonable estimate of the number of new words learned and his rate of learning new words.

ASSESSING DOVACK COST

The third criterion of success, economic feasibility, is currently under study by the staff in an effort to find ways of implementing the DOVACK approach elsewhere at reasonable cost. Present cost per student is $770 above the regular Jefferson County district expenditure of $658. Technology expands immensely the resources and services available to pupil and teacher, but this is not inexpensive. Staff members are hopeful, however, that the use of technological facilities on a shared-time, shared-cost basis will reduce these costs enough to make the program widely feasible for other districts.

EVALUATING DOVACK'S IMPACT

In addition to testing throughout the course of the program, the DOVACK staff is using standardized tests for long-range evaluation of results in both the project and control groups. Results

of this long-range testing are not yet available; however, evaluation reports by staff members and outside observers indicate that there are noticeable signs of progress toward achieving all four major student objectives. Both staff members and observers report that there is satisfaction in independent accomplishment and goal-oriented acceptance of responsibility for independent work by the DOVACK pupils. There is also evidence of progress toward the goals of developing favorable attitudes toward reading and increased reading skills. Students are taking books home--especially the books that *they* wrote--and are reading them to their parents. The youngsters volunteer to read to others more frequently than before; apparently they want to read more.

There is a broader impact on the all-black population participating in this project--a feeling of pride in the race and in the heroes of blacks. The all-black staff serves as a model for pupils, making them feel that they can achieve more too. Black folk humor is shared within the group in their stories.

Changes in behavior have been noticed. The youngsters are more independent. They search out sounds of words, working them out by themselves. They pace themselves. They're proud of their work and want to show it off and share it with visitors. Their

listening and communication skills have improved. They take more responsibility for their own learning.

Not only is DOVACK working well among the students, but parent support for the program is very good. Title I funds help pay for field trips, and parents have helped teachers chaperone on these trips. Parents of the control students are disappointed that their children are not in the program and are asking for an expansion of the program to include all the children.

Although the final evaluation is not complete, it appears that DOVACK is achieving its major instructional objectives and meeting all three of its criteria for success--adaptability to the population for which it was designed, effectiveness in meeting educational objectives, and economic feasibility.

FOR FURTHER INFORMATION

The DOVACK reading project is described in the following documents:

"The DOVACK Model," *The Florida Reading Quarterly*, Vol. VI, No. 1, December 1969.

Way, Florine, "The DOVACK Model," *Educom Bulletin*, Vol. 4, No. 5, October 1969.

Chapman, Ruth, "Computer Does the Chores in DOVACK," *Florida Schools*, November-December 1969, pp. 20-25.

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MODEL PROGRAMS--Childhood Education

This is one in a series of 34 descriptive booklets on childhood education programs prepared for the White House Conference on Children, December 1970. Following is a list of the programs and their locations:

The Day Nursery Assn. of Cleveland, Ohio
Neighborhood House Child Care Services, Seattle, Wash.
Behavior Analysis Model of a Follow Through Program, Oraibi, Ariz.
Cross-Cultural Family Center, San Francisco, Calif.
NRO Migrant Child Development Center, Pasco, Wash.
Bilingual Early Childhood Program, San Antonio, Tex.
Santa Monica Children's Centers, Calif.
Exemplary Center for Reading Instruction, Salt Lake City, Utah
Dubnoff School for Educational Therapy, North Hollywood, Calif.
Demonstration Nursery Center for Infants and Toddlers, Greensboro, N.C.
Responsive Environment Model of a Follow Through Program, Goldsboro, N.C.
Center for Early Development and Education, Little Rock, Ark.
DOVACK, Monticello, Fla.
Perceptual Development Center Program, Natchez, Miss.
Appalachia Preschool Education Program, Charleston, W. Va.
Foster Grandparent Program, Nashville, Tenn.
Hartford Early Childhood Program, Conn.
Philadelphia Teacher Center, Pa.
Cognitively Oriented Curriculum, Ypsilanti, Mich.
Mothers' Training Program, Urbana, Ill.
The Micro-Social Preschool Learning System, Vineland, N.J.
Project PLAN, Parkersburg, W. Va.
Interdependent Learner Model of a Follow Through Program, New York, N.Y.
San Jose Police Youth Protection Unit, Calif.
Model Observation Kindergarten, Amherst, Mass.
Boston Public Schools Learning Laboratories, Mass.
Martin Luther King Family Center, Chicago, Ill.
Behavior Principles Structural Model of a Follow Through Program, Dayton, Ohio
University of Hawaii Preschool Language Curriculum, Honolulu, Hawaii
Springfield Avenue Community School, Newark, N.J.
Corrective Reading Program, Wichita, Kans.
New Schools Exchange, Santa Barbara, Calif.
Tacoma Public Schools Early Childhood Program, Wash.
Community Cooperative Nursery School, Menlo Park, Calif.

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